



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,655	08/30/2001	Hiroshi Kanazawa	381KA/50358	7423

7590 03/27/2003

CROWELL & MORING LLP
INTELLECTUAL PRPOERTY GROUP
P.O. BOX 14300
Washington, DC 20044-4300

EXAMINER

ELKASSABGI, HEBA

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,655

Applicant(s)

KANAZAWA ET AL.

Examiner

Heba Elkassabgi

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings submitted by the Applicant in the Remarks filed on 01/23/03 are considered by the examiner not to be considered as new drawings or to be entered as drawings submitted by the applicant for consideration. The submitted drawings are considered by the examiner as clarification to the remarks, and are not being considered as formal drawings in consideration of the claimed matter as disclosed in the specification or claims.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation in Claims 1 and 7 of the permanent magnet having rectangular surfaces is not shown, the drawings illustrate square surfaces. Thus the limitation must be shown or the feature canceled from the claim. No new matter should be entered.

The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claims 1 and 7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the

Art Unit: 2834

application was filed, had possession of the claimed invention. Claims 1 and 7 indicate that the permanent magnets have a rectangular lateral surfaces is not disclosed in the specification and that the drawings do not support the limitation of the permanent magnets being rectangular.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kusase et al. U.S. Patent 5483116.

Kusase et al. discloses in Figure 1 a rotating electric machine in which a rotor (3), stator (2) are functioned by a stator coil (5) over a stator core (4), with the rotor having a pair of claw-type magnetic poles (15 and 16) placed in alternative directions and in contact with the whole of the magnetic pole surface of the permanent magnet, in which the permanent magnets (11) surface have a rectangular lateral surface that face the rotor (3) in the circumferential direction. A permanent magnet (11) is placed close to a pair of claw-type magnetic poles with the field coils (8) placed radially internally within the claw-type magnetic poles. Kusase et al., further illustrates in Figure 3, the auxiliary magnetic pole portion (AA) in contact with the whole of the magnetic pole surface (BB)

of the permanent magnet (11), with the auxiliary magnetic pole portion has a greater width (CC) in the radial outer side of the rotor than the inner side. The inner surface (DD) of the claws in the radial direction of the rotor is parallel to an outer surface of the rotor, with the claws (15) interconnected by a ring-shape member (25); in addition the claws have a magnet holding portion (AA). Including that the opposing surfaces (OP) of the claw poles (15 and 16) are adjacent the permanent magnets (11), in which the permanent magnets (11) form into substantially the same shape as the magnetic pole surface (OP) which they are in contact with. Furthermore, Figure 8 discloses a protective covering (PC) on the radial direction of the outer side of the permanent magnet.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusase et al. U.S. Patent 5483116 and further in view of Ragaly J.P. Application 11285214.

Kusase et al. discloses in Figure 1 a rotating electric machine in which a rotor (3), stator (2) are functioned by a stator coil (5) over a stator core (4), with the rotor

having a pair of claw-type magnetic poles (15 and 16) placed in alternative directions and in contact with the whole of the magnetic pole surface of the permanent magnet, and that the permanent magnets face the rotor in a circumferential direction and have rectangular lateral surfaces. A permanent magnet (11) is placed close to a pair of claw-type magnetic poles with the field coils (8) placed radially internally within the claw-type magnetic poles. Furthermore, the opposing surfaces (OP) of the claw poles (15 and 16) are adjacent the permanent magnets (11), in which the permanent magnets (11) form into substantially the same shape as the magnetic pole surface (OP) which they are in contact with. Additionally, Figure 2 indicates a claw poles (15 and 16) having claws that are tapered toward their tips in a substantially triangular shape in a section along an axial direction of the rotor. However, Kusase et al. does not divulge an auxiliary magnetic pole plate with a magnet-holding portion placed between a plurality of claws and permanent magnet, with the auxiliary magnetic pole plate contacting the whole of the magnetic pole surface of the permanent magnet.

Ragaly illustrates in Figure 16, magnetic pole plates (m2 and m3) in contact with the whole of the permanent magnet (m1) placed between a pluralities of claws (GG). In addition that the auxiliary magnetic pole plate (m2 and m3) have a magnet holding portion (HH) for the permanent magnet (m1), for the purpose of improving the permanent magnet holder and simplifying construction and lower manufacturing coast.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Kusase et al. by adding the magnetic pole plate between the claws and amid the permanent magnet, with the magnet-holding portion in contact with the pole plate.

Response to Arguments

Applicant's remarks have been considered and are not persuasive. In response to applicants remarks that Kusase et al. does not address "the claw type magnetic pole with a shape such that its surface which faces and abuts the magnetic pole surface of the adjacent permanent magnet makes contact with the entirety of such pole surface." is respectfully traversed by the examiner because in Figure 3 of Kusase et al. illustrates the claw pole (15 and 16) in which the surfaces that face and abuts in contact with the entirety of the claw pole surfaces (15 and 16) in contact with the permanent magnet.

In response to applicants remarks that the recitation of Claim 1 and 7 of "each of said plurality of claws of said rotor has a shape such that opposing surfaces of adjacent claws are in contact with the whole of the magnetic pole surfaces of said permanent magnets is suggested and illustrated in Figure 3 of Kusase et al.

In response to applicants argument on page 8 paragraph 2 of the magnet in Kusase et al., in which a portion of the magnet is not in contact with the surface of the

adjacent claw. The examiner respectfully disagrees with applicant's argument. Applicants drawings show the permanent magnet (7) of figures 3,6,8,9, and 12 which the claw pole contacts the permanent magnet surfaces of the sides and partial contact of the top portions with the claw poles and as indicated in the claim recitation of claims 1 and 7, which state that the "opposing surfaces of said claws adjacent said permanent magnets are formed into substantially the same shape as the magnetic pole surfaces with which they are in contact, such that said claws are in contact with the whole of the magnetic pole surfaces of the permanent magnets." Which the examiner understands from the wording of the claim and reviewing the drawings as the pole surfaces that cover the opposing side surfaces fully.

The examiner respectfully traverses applicant's argument on page 8 paragraphs 2 and 3 of Kusase et al. and Ragly indicating that the permanent magnets are tapered. Figure 3,6,and 8 in Kusase et al. and Figure 16 of Ragly do not show permanent magnets that are tapered, thinner, narrower, or smaller at one end.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

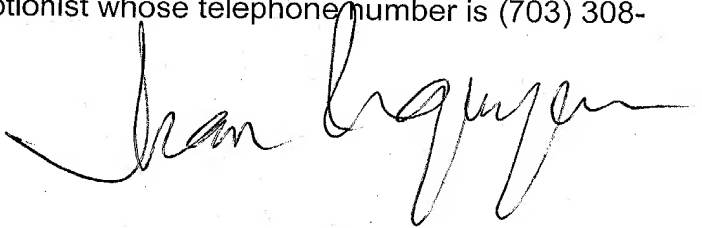
Application/Control Number: 09/941,655
Art Unit: 2834

Page 8

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Heba Y. Elkassabgi
March 20, 2003

A handwritten signature in black ink, appearing to read "Tran Nguyen", is written over the printed name and title.

TRAN NGUYEN
PRIMARY EXAMINER